



Ham's Nutrient Mixture (F12 and F10)

Cat. No.	Ham's F-12	Ham's F-10	Ham's F-10
	12-615	12-618	02-014F
	Liquid mg/L	Liquid mg/L	Liquid mg/ml
Component			
Inorganic Salts			
CaCl ₂ •2H ₂ O	44.11	44.10	44.10
CuSO ₄ •5H ₂ O	0.00	0.00	0.00
FeSO ₄ •7H ₂ O	0.83	0.83	0.83
KCl	223.65	285.00	285.00
KH ₂ PO ₄		83.00	83.00
MgCl ₂ •6H ₂ O	122.00		
MgSO ₄ •7H ₂ O		152.80	152.80
NaCl	7599.00	7400.00	7400.00
NaHCO ₃	1176.00	1200.00	1200.00
Na ₂ HPO ₄ •7H ₂ O	268.10	290.00	290.00
ZnSO ₄ •7H ₂ O	0.86	0.29	0.29
Other Components			
Glucose	1801.60	1100.00	1100.00
Hypoxanthine	4.08	4.08	4.08
Linoleic Acid	0.08		
Lipoic Acid	0.21	0.20	0.20
Phenol Red•Na	1.24	1.20	1.20
Putrescine•2HCl	0.16		
Sodium Pyruvate	110.10	110.00	110.00
Thymidine	0.73	0.73	
Amino Acids			
L-Alanine	8.91	8.91	8.91
L-Arginine•HCl	210.70	211.00	211.00
L-Asparagine•H ₂ O	15.01	15.00	15.00
L-Aspartic Acid	13.31	13.30	13.30
L-Cysteine•HCl•H ₂ O	35.12	35.13	35.13
L-Glutamic Acid	14.71	14.70	14.70
L-Glutamine	146.20	146.20	
L-Alanyl•L-Glutamine			446.00
Glycine	7.51	7.51	7.51
L-Histidine•HCl•H ₂ O	20.96	21.00	23.00
L-Isoleucine	3.94	2.60	2.60
L-Leucine	13.12	13.10	13.10
L-Lysine•HCl	36.54	29.30	29.30
L-Methionine	4.48	4.48	4.48
L-Phenylalanine	4.96	4.96	4.96
L-Proline	34.53	11.50	11.50
L-Serine	10.51	10.50	10.50
L-Threonine	11.91	3.57	3.57
L-Tryptophan	2.04	0.60	0.60
L-Tyrosine	5.44	1.81	1.81

L-Valine	11.71	3.50	3.50
Vitamins			
d-Biotin	0.01	0.02	0.02
D-Ca Pantothenate	0.24	0.72	0.72
Choline Chloride	13.96	0.70	0.70
Folic Acid	1.32	1.32	1.32
i-Inositol	18.00	0.54	0.54
Nicotinamide	0.04	0.62	0.62